IN THE CLAIMS

Claims 2-21, 50 and 51 are now canceled as shown in the following listing:

Claim 1 (previously amended): A transgenic mouse comprising a Flp recombinase transgene under control of a tissue-specific promoter integrated in a genome of the transgenic mouse, wherein the Flp recombinase transgene is expressed in a cell of the transgenic mouse at a level of recombinase activity sufficient to catalyze recombination between Flp-recognition sequences.

Claims 2-51 (canceled)

Claim 52 (previously amended) A transgenic mouse comprising a Flp recombinase transgene integrated into the genome of the transgenic mouse, wherein the Flp recombinase transgene is expressed from a tissue specific or a developmental stage specific promoter in at least one cell of the transgenic mouse at a level sufficient to catalyze recombination between two FLP-recognition sequences in direct repeat orientation in said cell, wherein said recombination is detected by activation of a gene expressed from a ubiquitous promoter, wherein said gene produces a detectable product only when in recombined form.

Claims 53-54 (canceled)

Claim 55 (previously amended): The transgenic mouse of claim 52, wherein said detectable product is a histochemical marker encoded by said gene selected from the

group consisting of alkaline phosphatase, β-galactosidase, chloramphenicol acetyltransferase, luciferase, green fluorescent protein and β-glucuronidase.

Claim 56 (previously amended): The transgenic mouse of claim 52, wherein said detectable product is a transcript expressed from said gene in recombined form that is detectable by *in situ* hybridization.

Claim 57 (previously amended): The transgenic mouse of claim 52, wherein said detectable product is a peptide tag encoded by said gene that is detectable by binding to a cognate binder.

Claim 58 (previously presented): The transgenic mouse of claim 57, wherein said peptide tag and cognate binder pair are selected from the group consisting of avidin-biotin, GST-glutathione, polyHis-divalent metal, MBP-maltose, 9E10 Myc epitope-antibody, protein A/G-immunoglobulin and SV40 T antigen-antibody.

Claim 59 (previously amended): A method of mapping the developmental fate of a cell *in vivo* comprising:

(a) providing a transgenic mouse comprising a genome which contains a Flp recombinase transgene under control of a tissue-specific or developmental stage specific promoter and at least two FLP recognition sequences in direct orientation;

(b) expressing the Flp recombinase transgene at a level sufficient to catalyze site-specific recombination between said FLP recognition sequences in at least one cell; and

(c) detecting said recombination in said at least one cell by detecting activation of a gene expressed from a ubiquitous promoter, wherein said gene produces a detectable product only when in recombined form, and wherein said recombination is evidence of expression of said Flp recombinase transgene in said cell or a developmental precursor to said cell.

Claims 60-61 (canceled)

Claim 62 (previously amended): The method of claim 59, wherein said detectable product is a histochemical marker encoded by said gene selected from the group consisting of alkaline phosphatase, β-galactosidase, chloramphenicol acetyltransferase, luciferase, green fluorescent protein and β-glucuronidase.

Claim 63 (previously amended): The method of claim 59, wherein said detectable product is a transcript expressed from said gene in recombined form that is detectable by *in situ* hybridization.

Claim 64 (previously amended): The method of claim 59, wherein said detectable product is a peptide tag encoded by said gene that is detectable by binding to a cognate binder.

Claim 65 (previously presented): The method of claim 64, wherein said peptide tag and cognate binder pair are selected from the group consisting of avidin-biotin, GST-glutathione, polyHis-divalent metal, MBP-maltose, 9E10 Myc epitope-antibody, protein A/G-immunoglobulin and SV40 T antigen-antibody.